

***Pseudotropheus tursiops*, A New Species of Cichlid Fish From Lake Malawi**

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Among the cichlid fishes brought back from Lake Malawi by Dr. Herbert R. Axelrod were two specimens not identifiable with any known species from that lake. The scale pattern and lower pharyngeal teeth indicate that it is a member of the genus *Pseudotropheus*, and it is therefore described under that genus. It has in addition certain characteristics of the genus *Melanochromis*, also from Lake Malawi, and some comparisons are made with species of that genus.

***PSEUDOTROPHEUS TURSIOPS* new species**

HOLOTYPE: USNM 214704, male, 86.2 mm SL, collected on the Dr. Herbert R. Axelrod expedition to Lake Malawi, Malawi, October, 1974.

PARATYPE: USNM 214705, female, 69.4 mm SL, same data as holotype.

DIAGNOSIS: *Pseudotropheus tursiops* is distinguishable from all other species of *Pseudotropheus* by the dolphin-like shape of the snout. It differs from various *Pseudotropheus* also by different combinations of characters such as color pattern and proportional measurements.

DESCRIPTION: Proportional measurements (data for holotype is presented first): Depth 3.1, 2.9 (32.3%, 34.5%) in SL; head 3.0, 2.8 (33.3%, 35.7%) in SL; eye diameter 4.2, 3.8 (23.8%, 26.3%) in head length; snout length 2.6, 2.7 (38.5%, 37.0%) in head length; interorbital width 3.8, 4.3 (26.3%, 24.2%) in head length; upper jaw length 2.9, 3.2 (34.2%, 31.3%) in head length; lower jaw length 3.1, 3.4 (32.3%, 29.4%) in head length; preorbital length 4.3, 5.1 (23.3%, 19.6%) in head length; postorbital length 2.4, 2.2 (41.7%, 45.5%) in head length; least depth of caudal peduncle 8.1 (12.4%) in SL; length of caudal peduncle 8.3, 6.5 (12.1%, 15.4%) in SL; predorsal length 3.0, 2.8 (33.3%, 35.7%) in SL; pectoral fin length 3.8, 3.9 (26.3%, 25.6%) in SL; pelvic fin length 3.4, 3.9 (29.4%, 25.6%) in SL; pelvic spine length 7.2, 6.6 (13.9%, 15.2%) in SL.

HEAD: Snout distinctive, with the upper profile having a conspicuous notch at level of nostrils, giving it an appearance reminiscent of that of the marine dolphin (mammal) *Tursiops truncatus*. The lower jaw is heavy, prominent, equal to or extending slightly beyond end of upper jaw. Snout from dorsal view tapering slightly toward tip (but not nearly as much as in genus *Labidochromis*). Posterior edge of maxillary reaching beyond level of nostrils but not to anterior edge of orbit.

FINS: Dorsal fin XVII (female)—XVIII (male), 9; anal fin III, 8; pectoral fin 14 (all elements counted except for short splint at upper base). Caudal fin truncate or slightly indented.

SCALES: Lateral line scales 21-23 + 10-11 (plus one or two pored scales on base of caudal fin); longitudinal scale series 29; 7-8 (from first dorsal fin spine base) or 2-3 (from 10th dorsal fin spine base) + 1 + 10 scales in a transverse series; fins unscaled except for basal half of caudal fin.

TEETH: Outer row of teeth in each jaw rounded, the teeth bicuspid, with the cusp nearest the symphysis larger; three rounded inner rows of tricuspid teeth in each jaw; 48 teeth in outer row of upper jaw, posteriormost three or more enlarged and caniniform; 30 bicuspid teeth in outer row of lower jaw.

Pharyngeal teeth of male as in *Pseudotropheus*, those of female similar but possibly less crowded and somewhat larger posteriorly.

GILL RAKERS: Gill rakers on outer arch 2 + 10-11, moderately short and stout.

INTERNAL ANATOMY: Due to the scarcity of specimens, major dissections were not made other than to establish the sex and check the pharyngeal teeth. The peritoneum is black.

COLORATION: The color of the two specimens described here is shown in the accompanying photographs. A photo of an additional specimen (apparently a male) taken in an aquarium was seen. It is bluish-violet below the mid-line, iridescent light blue above it, the two shades separated by an indistinct dark band. About five indistinct vertical stripes extend from the dorsal fin base to the lateral stripe posteriorly (the anterior ones, if present, obscured by the bright blue color). A second indistinct lateral stripe may be present between the dorsal fin base and the primary lateral band. The rays of the caudal fin (exclusive of their tips) are black, as are the outer portions of the posterior rays of the dorsal and anal fins. The



Pseudotropheus tursiops. Paratype, female, 69.4 mm SL above; holotype, male, 86.2 mm SL below. Photo by Dr. Herbert R. Axelrod.

Opposite:

Close-up of the anterior end of the holotype and paratype of *Pseudotropheus tursiops*. Photo by Dr. Herbert R. Axelrod.

remainder of the dorsal, anal, and caudal fins is grayish to dusky. The border of the spiny dorsal fin, and a narrow edge on the pelvic and anal fins, are light bluish-green. The pelvic and anal fins have a dark submarginal band. The pectoral fins are dusky yellowish in the male and yellowish in the female, and the female (probably the male also) has a noticeable dark border to the upper and lower parts of the caudal fin. "Egg spots" are present in both males and females, and a black spot is present at the opercular angle. The cheeks are dusky yellowish suffused with blue; some blue markings can be seen around the eye, along the lower jaw, and around the opercular spot.

Females are generally brownish with some bluish reflections on the head and body. Indications of the two horizontal stripes, in the same position as those of the male, are present.



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COMPARISONS: As noted in the diagnosis, the snout shape is distinctive. It is not shared by any other described species of *Pseudotropheus* (or mbuna cichlid for that matter). The counts and measurements fall within the limits usually attributed to the species included in *Pseudotropheus* but differ from one species or another by various proportions. For example, it differs in body depth from *P. elongatus*; by head and snout length, interorbital width, and eye diameter from *P. tropheops*; and by snout length, interorbital width, and perhaps head length and anal fin base length from *P. zebra*. The rounded outer row of teeth differentiate it from *P. lucerna*, the size and tooth characters are different from those of *P. minutus*, and the color pattern is distinct from that of most species of *Pseudotropheus*.

The color pattern has elements that are commonly found in the genus *Melanochromis* and, since that genus is at best poorly differentiated from the genus *Pseudotropheus*, it is necessary to eliminate those species from consideration. The combination of characters including eye diameter, gill raker count, and extent of the maxillary differentiates *P. tursiops* from *M. perspicax* and *M. brevis*, whereas the shorter lower jaw distinguishes it from *M. melanopterus*, *M. vermivorus*, and *M. simulans*. The snout shape of *P. tursiops* is not found in any species of the genus *Melanochromis*, and the horizontal dark bands generally so conspicuous in species of *Melanochromis* are at best vaguely indicated in the new species.

DISTRIBUTION: Although the distribution of this species within Lake Malawi is not well known, it has recently been collected at Chisumulu Island on the east-central shore of the lake.

ETYMOLOGY: Named *tursiops* in allusion to the marine bottle-nosed dolphin, *Tursiops truncatus*, which has a snout somewhat similar to that of *P. tursiops*. For this same reason the common name bottlenosed mbuna is proposed.

REMARKS: *Pseudotropheus tursiops* is easily recognizable by the snout shape and stands out from the other mbuna, especially the living animals, in an aquarium. The color pattern is also different, although among many color varieties of *P. zebra* there may be one that resembles *P. tursiops*, at least superficially. The species has not appeared in the commercial market.